

Table S1. Transmission efficiency of *Ae. albopictus* and *Ae. aegypti* populations from the Americas at day 7 and 10 days after challenge with the three CHIKV isolates.

Country	Mosquito population	Species	Viral isolate	Day 7	Day 10
USA	TYS	AL	CHIKV_0621	56.7% (30)	40% (30)
			CHIKV_115	50% (30)	27.3% (11)
		AE	CHIKV_0621	26.7% (30)	33.3% (30)
			CHIKV_115	11.1% (18)	ND
	VRB	AL	CHIKV_0621	26.7% (30)	14.3% (7)
			CHIKV_115	26.7% (30)	16.7% (30)
		AE	CHIKV_0621	13.3% (30)	6.7% (30)
			CHIKV_115	33.3% (30)	10% (30)
			CHIKV_0621	16.7% (30)	20% (30)
			CHIKV_115	23.3% (30)	23.3% (30)
Mexico	MXC	AE	CHIKV_0621	33.3% (30)	20% (30)
			CHIKV_115	40% (30)	13.3% (30)
			CHIKV_NC	83.3% (30)	43.3% (30)
		AL	CHIKV_0621	83.3% (30)	73.3% (30)
			CHIKV_115	33.3% (30)	76.7% (30)
Panama	PAN	AE	CHIKV_0621	78.3% (23)	70% (10)
			CHIKV_115	82.1% (28)	40% (15)
			CHIKV_NC	64.7% (17)	20.7% (29)
		AL	CHIKV_0621	52.6% (19)	23.3% (30)
			CHIKV_115	39.1% (23)	36.7% (30)
Venezuela	DEL	AE	CHIKV_0621	53.3% (30)	16.7% (30)
			CHIKV_115	46.7% (30)	40% (30)
			CHIKV_NC	73.3% (30)	69.4% (36)
		AL	CHIKV_0621	35.5% (31)	52.9% (34)
			CHIKV_115	43.3% (30)	53.3% (30)
Peru	PUM	AE	CHIKV_0621	46.7% (30)	43.3% (30)
			CHIKV_115	56.7% (30)	55% (20)
			CHIKV_NC	53.8% (26)	ND
		AL	CHIKV_0621	56.7% (30)	40.7% (29)
			CHIKV_115	64.7% (19)	23.3% (30)
	TUM	AE	CHIKV_0621	39.1% (23)	36.7% (30)
			CHIKV_115	53.3% (30)	40% (30)
			CHIKV_NC	73.3% (30)	69.4% (36)
		AL	CHIKV_0621	35.5% (31)	52.9% (34)
			CHIKV_115	43.3% (30)	53.3% (30)
Brazil	MAN	AE	CHIKV_0621	46.7% (30)	43.3% (30)
			CHIKV_115	56.7% (30)	55% (20)
			CHIKV_NC	53.8% (26)	ND
		AL	CHIKV_0621	46.7% (30)	43.3% (30)
			CHIKV_115	56.7% (30)	55% (20)
		AE	CHIKV_0621	56.7% (30)	40% (30)
			CHIKV_115	66.7% (30)	66.7% (30)
		AL	CHIKV_0621	56.6% (30)	23.3% (30)
			CHIKV_115	53.3% (30)	36.7% (30)
		AE	CHIKV_0621	37.9% (29)	20% (30)
			CHIKV_115	40% (30)	40% (30)
	JRB	AL	CHIKV_0621	96.7% (30)	76.7% (30)
			CHIKV_115	46.7% (30)	40% (30)
		AE	CHIKV_0621	46.7% (30)	43.3% (30)
			CHIKV_115	56.7% (30)	55% (20)
		AL	CHIKV_0621	50% (30)	33.3% (30)
			CHIKV_115	79.3% (29)	ND
	PAQ	AE	CHIKV_0621	20% (30)	43.3% (30)
			CHIKV_115	39.1% (23)	37.5% (32)
		AL	CHIKV_0621	30% (30)	33.3% (30)
			CHIKV_115	72.7% (22)	85.2% (27)
		AE	CHIKV_0621	20% (30)	10.34% (29)
			CHIKV_115	43.3% (30)	50% (30)
		AL	CHIKV_0621	62.5% (8)	ND
			CHIKV_115	50% (30)	ND
Bolivia	BMA	AE	CHIKV_0621	60% (30)	36.7% (30)
			CHIKV_115	63.3% (30)	60% (30)
		AE	CHIKV_0621	46.7% (30)	43.3% (30)
Paraguay	SDG		CHIKV_115	36.7% (30)	33.3% (30)
	AL	CHIKV_0621	50% (30)	73.3% (30)	
		CHIKV_115	79.3% (29)	ND	
Uruguay	ASU	AE	CHIKV_0621	20% (30)	43.3% (30)
			CHIKV_115	39.1% (23)	37.5% (32)
		AE	CHIKV_0621	30% (30)	33.3% (30)
			CHIKV_115	72.7% (22)	85.2% (27)
		AL	CHIKV_0621	20% (30)	10.34% (29)
			CHIKV_115	43.3% (30)	50% (30)
Argentina	MIA	AE	CHIKV_0621	43.3% (30)	60% (30)
			CHIKV_115	76.7% (30)	40% (30)
			CHIKV_NC	30% (30)	46.7% (30)
		AL	CHIKV_0621	33.3% (30)	16.7% (30)
			CHIKV_115	46.7% (30)	10% (30)
Argentina	BUE	AE	CHIKV_0621	23.3% (30)	36.7% (30)
			CHIKV_115	48.3% (29)	10% (30)
			CHIKV_NC	63.6% (33)	26.7% (30)
		AL	CHIKV_0621	33.3% (30)	16.7% (30)
			CHIKV_115	46.7% (30)	10% (30)

Transmission efficiency corresponds to the proportion of mosquitoes with infectious saliva among the tested ones. Numbers of analyzed mosquitoes are shown in parenthesis. **AE:** *Aedes aegypti*; **AL:** *Aedes albopictus*. Viral strains: CHIKV_0621 isolated from La Réunion (ECSA genotype, E1-226V and E1-98A substitutions), CHIKV_115 isolated from La Réunion (ECSA genotype, E1-226A and E1-98A substitutions) and CHIKV_NC isolated from New Caledonia (Asian genotype, E1-226A and E1-98T substitutions). Mosquito populations (from North to South): **TYS** Tyson (United States), **VRB** Vero Beach (United States), **MXC** Chiapas (Mexico), **PAN** Panamá (Panama), **DEL** Delta Amacuro (Venezuela), **TUM** Tumbes (Peru), **PUM** Punchana (Peru), **MAN** Manaus (Brazil), **STR** Santarém (Brazil), **PNM** Parnamirim (Brazil), **CAB** Campos Belos (Brazil), **CPG** Campo Grande (Brazil), **JRB** Jurujuba (Brazil), **PAQ** Paquetá (Brazil), **VAZ** Vaz Lobo (Brazil), **BEL** Belford Roxo (Brazil), **SAN** Santos (Brazil), **BMA** Monteagudo (Bolivia), **SDG** Salto del Guairá (Paraguay), **ASU** Asuncion (Paraguay), **SAL** Salto (Uruguay), **MIA** Misiones (Argentina), **ACO** Corrientes (Argentina), **BUE** Buenos Aires (Argentina). ND: Not determined.

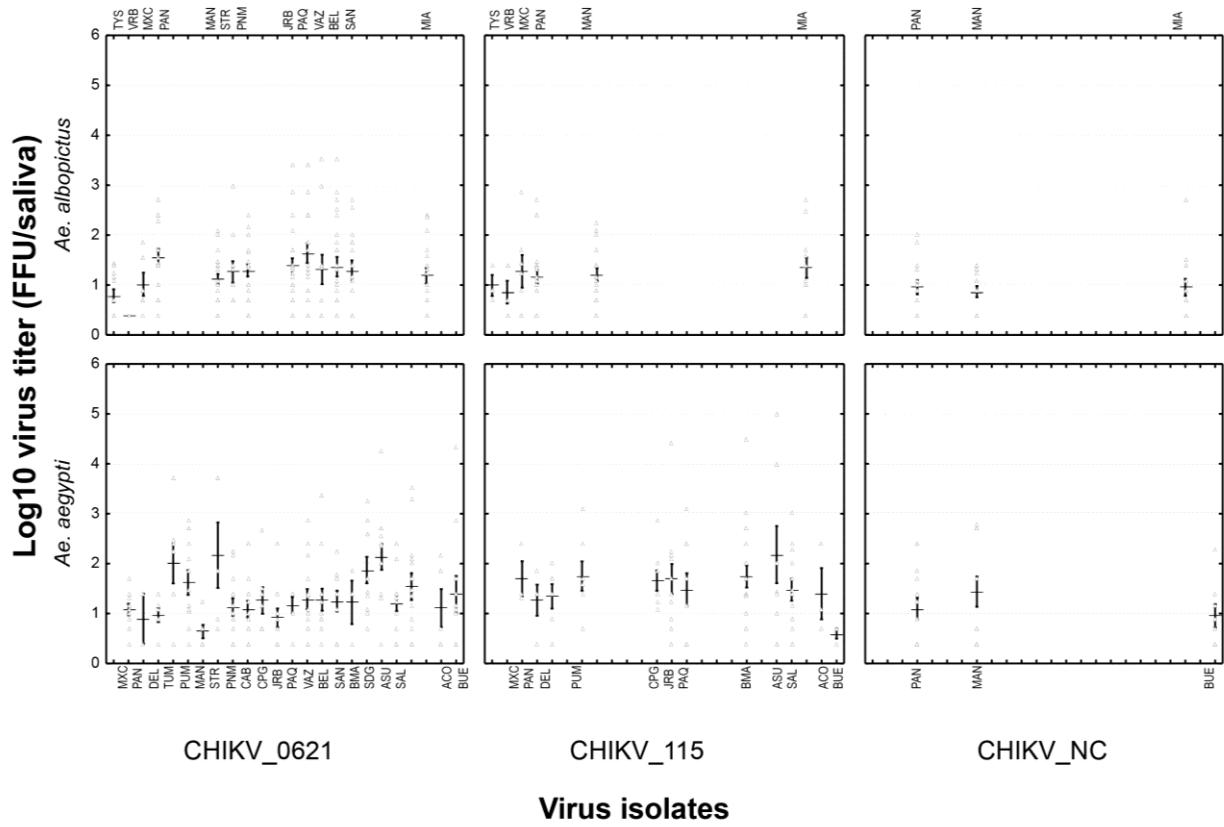


Figure S1. Viral loads of three CHIKV isolates in saliva of *Ae. albopictus* and *Ae. aegypti* mosquitoes from 35 populations from the Americas at day 10 post-infection. At day 10 after an infectious blood-meal, mosquitoes were sacrificed and saliva was collected from individual mosquitoes and titrated by focus fluorescent assay on C6/36 *Ae. albopictus* cells. Viral strains: CHIKV_0621 isolated from La Réunion (ECSA genotype, E1-226V and E1-98A substitution), CHIKV_115 isolated from La Réunion (ECSA genotype, E1-226A and E1-98A substitution) and CHIKV_NC isolated from New Caledonia (Asian genotype, E1-226A and E1-98T substitution). Mosquito populations (from North to South): **TYS** Tyson (United States), **VRB** Vero Beach (United States), **MXC** Chiapas (Mexico), **PAN** Panamá (Panama), **DEL** Delta Amacuro (Venezuela), **TUM** Tumbes (Peru), **PUM** Punchana (Peru), **MAN** Manaus (Brazil), **STR** Santarém (Brazil), **PNM** Parnamirim (Brazil), **CAB** Campos Belos (Brazil), **CPG** Campo Grande (Brazil), **JRB** Jurujuba (Brazil), **PAQ** Paquetá (Brazil), **VAZ** Vaz Lobo (Brazil), **BEL** Belford Roxo (Brazil), **SAN** Santos (Brazil), **BMA** Monteagudo (Bolivia), **SDG** Salto del Guairá (Paraguay), **ASU** Asuncion (Paraguay), **SAL** Salto (Uruguay), **MIA** Misiones (Argentina), **ACO** Corrientes (Argentina), **BUE** Buenos Aires (Argentina). Error bars refer to the standard error of mean titer for each pairing mosquito population-virus strain.